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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,963	02/28/2002	James B. Crews	304-27440-US	6754

24923 7590 04/09/2003
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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,963

Applicant(s)

CREWS, JAMES B.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-23 are pending. Claims 1, 9, 14 and 20 were amended by the amendment filed Jan 28, 2003, Paper No. 5. The Information Disclosure Statement filed Jan 28, 2003 has been entered as Paper No. 6.

Drawings

1. The corrected or substitute drawings were received on April 3, 2002. These drawings are acceptable for examination. Review by the draftperson will be held will be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 14 and 20 it is unclear what is the intended scope of the claim. Said claims set forth "at least one polymer forming a gel" and within the same claim "at least one aminocarboxylic acid or a salt thereof in an effective amount to subsequently directly break down the gel". It is unclear what form the aqueous fluid takes since the claims recite both the formation of a gel and an effective amount of an agent to break down said gel.

Applicants do not define the term cross-linking and/or cross linker in the claims. The specification indicates borate cross-linked guar gum. Said cross-linking and/or

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cross linker would include polyvalent metal ions common to ground water compositions, eg., Fe, Al, Ca and Mg among others. The scope of cross-linker or cross-linking ion is indefinite because it is unclear whether said limitation excludes organic cross-linkers or cross-linkers other than borates.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1-2, 5-7, 9, 12, 14, 17,18 are rejected under 35 U.S.C. 102(e) as being anticipated by Lai et al, US 6,65,355. Lai et al discloses the addition of aminocarboxylic acid salts to cross-linked polyacrylamide gels for the purpose of breaking said gels.

6. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall et al, US 5,054,552. Hall et al discloses (column 3, lines 8-27 and examples) discloses the addition of oxidizers, ferrous ammonium sulfate and EDTA to a non-crosslinked xanthan gum gel as a breaker. See Table 1, wherein the xanthan compositions is referred to as a gel. See Table 2 for the variation in temperatures from 100 to 140° F.

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The concentration of the EDTA is within the claimed range based on a 1% use of the catalyst which equates to about 1.1 kg/m³. The iron salt is added as a catalyst and not as a crosslinking agent. It is noted that although some of applicant's claims exclude the use of a crosslinker, applicant does not specifically define the scope of the cross-linkers to be excluded. The iron salts of the reference are added to the xanthan in the gel form for the purpose of breaking said gel. Lastly applicant's claims do not exclude the further ingredients in the Hall et al reference by the use of the transitional language "comprising".

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al, US 5,054,552. Hall et al discloses xanthan gels as set forth in the above rejection. Said characterization is herein incorporated by reference.

To the extent the concentrations for the EDTA differ from those exemplified in the Hall et al reference or the possible characterization of the ferrous salt as a crosslinker, Hall et al discloses (column 3, lines 59 et seq) concentration ranges for the breaker agents.

It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the concentrations within the ranges taught in the Hall et al reference for the advantage of improved breaking of the xanthan gels.

Furthermore, Hall et al is silent regarding any cross-linking, there is no suggestion that the ferrous ions could cross-link the xanthan as employed in the Hall et al reference and the ferrous salt is characterized in Hall et al as a catalyst for the oxidation. One having ordinary skill in the art at the time of the invention would not have expected the ferrous salt and/or ion to function as a cross-linker, said cross-linker being excluded by the instant claims.

Response to Arguments

9. Applicant's arguments filed Jan 28, 2003 have been fully considered but they are not persuasive.

10. In claims 14-23, applicants claim compositions but said composition claims include limitations more characteristic of method steps. It is unclear from the language of said methods what compositions are sought for patentability. The compositions have a physical transformation from gel to liquid based on the addition of a gel breaking fluid. It is unclear whether applicants are claiming the gel, a broken gel (ie, liq) or some transitory state between the two.

11. Regarding the cross-linkers, this has been addressed in the above rejection. It is unclear whether said limitation excludes ground water polyvalent metal ions common to hard water.

12. Applicants (pages 9 and 10) assert the Lai et al reference acts on the cross-linker and not on the polymer and the Lai et al reference acts on the cross-linker. Since the claims employ open language, "comprising"; the instant claim do not exclude said agents from also acting on the cross-linkers. The compositions are an equilibrium system and the skilled artisan would have expected the breaker agents to act on the gels that include both the polymers and the cross-linkers.

13. Applicants (pages 11 to 13) assert the Hall et al reference must include oxidizers, organic acid and catalyst. Since the claims employ open language, "comprising"; the instant claim do not exclude said agents from also acting on the cross-linkers. Since the reference discloses the use of each of the claimed steps and components plus additional components not excluded by applicants, said reference is deemed to anticipate the claims.

14. Applicants (pages 14-17) assert the Hall et al reference must include oxidizers, organic acid and catalyst and the function of said components is separate from the invention. Applicant's claims employ open language, "comprising"; the instant claim do not exclude said agents from also acting on the cross-linkers. Applicants arguments are not commensurate in scope with the claims. Said claims do not exclude the addition of further ingredients. Attributing a function to a compound in an equilibrium system does not preclude it from acting on other ingredients in that system. Furthermore, the step of acting does not set forth how the material acts, eg, catalyst or other degradation processes.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM
April 7, 2003